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[11]

[54] SEPARABLE FASTENER HAVING A PERIMETER COVER GASKET

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Related U.S. Application Data

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	U.S. Cl 428/100	
		428/192; 24/442
[58]	Field of Search	. 428/99, 100, 120,
	42	8/192 24/442 444

[56] References Cited

U.S. PATENT DOCUMENTS

4,198,734	4/1980	Brumlik 24/204
4,693,921	9/1987	Billarant et al 428/100
4,710,414	12/1987	Northrup et al 428/43
4,726,975	2/1988	Hatch 428/100
4,842,916	6/1989	Ogawa et al 428/100
4,931,344	6/1990	Ogawa et al 428/100
4,933,224	6/1990	Hatch 428/100
5,171,395	12/1992	Gilcreast 156/500
5,259,905	11/1993	Gilcreast 156/250
5,286,431	2/1994	Banfield et al 264/134
5,500,268	3/1996	Billarant 428/100
5,540,970	7/1996	Banfield et al 428/100
5,554,239	9/1996	Datta et al 24/442

5,606,781	3/1997	Provost et al.	 24/452
3,000,701	3, 1, 2, 2,	Trovost of ar.	 2 17 152

5,786,061

FOREIGN PATENT DOCUMENTS

0 138 724A2	4/1985	European Pat. Off A47C 31/02
0 246 221 A2	11/1987	European Pat. Off A44B 18/00
0 439 969 A1	8/1991	European Pat. Off B29C 33/00
2047243	3/1971	France A44B 21/00
2405123	5/1979	France B29C 27/14
WO 92/19119	11/1992	WIPO .
WO 95/01741	1/1995	WIPO .

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[57] ABSTRACT

A separable fastener component for use with a complementary separable fastener component has a base member, having a nominal fastening face and a non-fastening face. Carried on the fastening face is a pattern of fastening elements, comprising an interior region carrying fastening elements that are free of any cover. Substantially surrounding the interior region is a perimeter region that carries fastening elements which are covered. The perimeter region of covered fastening elements may be a rectangular or non-rectangular annulus. The fastening elements may be hooks or loops.

The fastening component may be incorporated into a molded product, with minimal intrusion of the molding material into the fastening elements of the main region. The perimeter cover forms a gasket seal with the mold in several different configurations and prevents molding material from infiltrating to the uncovered interior region of fastening elements. The perimeter cover need not be removed for use of the fastener component, because the uncovered interior fastening elements function normally.

An assembly line method of making the fastening component and a method of molding the fastening component into an article are also disclosed.

29 Claims, 7 Drawing Sheets

